

ing its branchlets, rachis, and the lower surface of its leaf-blades faintly yellowish-pubescent, rather than hirsute.

The variety is based on *Kloss s.n.* from Daban, at 650 meters altitude, Phan Rang, Vietnam, deposited in the herbarium of the British Museum in London. Munir (1966) cites only the type specimen and suggests that the taxon may represent a natural hybrid with *C. pedicellata* Munir or *C. tomentosa* var. *nivea* Munir.

MATERIALS TOWARD A MONOGRAPH OF THE GENUS *LAMPAYA*

Harold N. Moldenke

This is the 48th genus to be treated in my series of notes in the present journal. Although time has not been available to make a formal monograph, it has been thought advisable to place on record here the notes on this genus assembled by my wife and myself over the past fifty years of intensive library and herbarium research so that they will be available to future monographers. Full explanation of the herbarium acronyms hereinafter employed (as they have been in all of my long series of papers in this journal since 1933) will be found in my "Fifth Summary of the *Verbenaceae*" (1971), volume 2, pages 795 to 801.

LAMPAYA R. A. Phil., Ann. Mus. Nac. Chile Bot. 1: 58. 1891.

Synonymy: *Lampaya* F. Phil., Verh. Deutsch. Wiss. Ver. Santiago 1: 160, in obs. 1886; Mold., Suppl. List Inv. Names 21. 1941.

Lampayo Phil. ex Murillo, Pl. Médic. Chil. 163, nom. nud. 1889; Mold., Suppl. List Inv. Names 4, in syn. 1941.

Bibliography: F. Phil., Verh. Deutsch. Wiss. Ver. Santiago 1: 160. 1886; Murillo, Pl. Méd. Chil. 163. 1889; R. A. Phil., Ann. Mus. Nac. Chile Bot. 1: [Cat. Praev. Pl. Itin. Tarap.] 58, pl. 2, fig. 5. 1891; R. A. Phil., Verz. Hocheb. Prov. Antofag. Tarap. Pfl. pl. 2. 1891; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, Nachtr. zu 4 (3a): 290. 1897; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 237. 1903; Dalla Torre & Harms, Gen. Siphonog., imp. 1, 430. 1904; Fries, Nov. Act. Reg. Soc. Sci. Upsal. 4 (1): [Nord Argent.] 110. 1905; Reiche, Verhandl. Deutsch. Wiss. Ver. Santiago 5: 6. 1905; Reiche & Phil. in Reiche, Estud. Crit. Fl. Chile 5: 272 & 303--304. 1910; M. Kunz, Anatom. Untersuch. Verb. 35 & 36. 1911; Nienburg, Justs Bot. Jahresber. 39 (2): 1051. 1916; Fedde, Justs Bot. Jahresber. 39 (2): 1420. 1917; Dominguez, Invest. Fitoquim. 196. 1928; Baeza, Nomb. Vulg. Pl. Silv., ed. 2, 122. 1930; Stapf, Ind. Lond. 4: 37. 1930; Junell, Symb. Bot. Upsal. 1 (4): 36--37. 1934; A. W. Hill, Ind. Kew. Suppl. 9: 154. 1938; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 237. 1941; Mold., Phytologia 2: 51--52. 1941; Mold., Suppl. List Inv. Names 4. 1941; Mold., Alph. List Inv. Names 27. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 42, 43, & 94. 1942; Mold., Alph. List Cit. 1: 95 (1946) and 2: 537. 1948; H. N. & A. L. Mold., Pl. Life 2: 31, 43, 53, & 64. 1948; Mold., Alph. List Cit. 3: 690 & 813 (1949) and 4: 1293. 1949;

Mold., Known Geogr. Distrib. Verbenac., ed. 2, 96, 101, 104, & 187. 1949; Metcalfe & Chalk, Anat. Dicot. 1031, 1032, & 1040. 1950; Hunziker, Rev. Invest. Agr. 6: 192. 1952; E. J. Salisb., Ind. Kew. Suppl. 11: 131. 1953; Angely, Cat. Estat. Gen. Bot. Fan. 17: 4. 1956; Cabrera, Revist. Invest. Agric. 11: 336. 1957; Dalla Torre & Harms, Gen. Siphonog., imp. 2, 430. 1958; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 237. 1959; Mold., Résumé 113, 121, 124, 302, 407, & 458. 1959; Muñoz Pizarro, Espec. Pl. Descr. Philip. 110. 1960; Dalla Torre & Harms, Gen. Siphonog., imp. 3, 430. 1963; F. A. Barkley, List Ord. Fam. Anthoph. 75 & 178. 1965; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 7, 615. 1966; Rouleau, Guide Ind. Kew. 104 & 352. 1970; Heusser, Pollen Spores Chile 61 & 82, pl. 57-665. 1971; Mold., Fifth Summ. 1: 182, 192, & 197 (1971) and 2: 534, 756, & 883. 1971; Thanikaimoni, Inst. Franç. Pond. Trav. Sect. Scient. Tech. 12 (1): 131. 1972; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 8, 632. 1973; Mold., Phytologia 28: 458 & 509. 1974; Montes, Wilkomirsky, & Ubilla, Pl. Med. 25: 192. 1974; Napp-Zinn, Anat. Blatt. A (1): 418. 1974; Troncoso, Darwiniana 18: 296, 301, 302, 306, 355-358, & 409, fig. 16 & 17. 1974; Thanikaimoni, Inst. Franç. Pond. Trav. Sect. Scient. Tech. 13: 130 & 328. 1976; Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 40 & 47. 1978.

Philippi's original (1881) description of this genus is: "Calyx hypogynus, tubulosus, quinquentatus, dentibus brevibus parum inaequalibus. Corolla tubulosa versus os sensim infundibuliformi-dilatata, lobis limbi brevibus, obtusis, subaequalibus, demum reflexis. Stamina didynamia; antherae globosae, inferiores in faucibus corollae sessilibus, superioribus filamentis brevi stipitatae, laciniis corollae subbreviares. Ovarium ovatum, biloculare, loculis uniovulatis; stylus filiformibus, corollam aequans, apice truncatus; stigma apex styli. Fructus calyce inclusus, ovatus, subcostatus, epicarpio forte carnosulo, in pyrenas duas, ad commissuram concavas facile secedens, quae semen unicum includunt."

Troncoso (1974) has amplified this description to: "Cáliz breve, tubuloso, persistente y acrecente en el fruto, 5-dentado, dientes cortos, agudos, desiguales, generalmente incurvos. Corola zigomorpha de tubo largo, recto, estrecho, ligeramente dilatado en la parte superior; limbo reducido, 5-lobado, lóbulos subiguales, obtusos enteros y recurvos. Estambres 4 didinamos, insertos en la porción superior del tubo corolar cerca de la garganta, incluidos; filamentos muy breves; anteras globosas, tecas paralelas dorsifijas. Ovario unicarpelar y 2-locular. lóculos uniovulados; óvulos anátropos, ascendentes, basales; estilo filiforme, de igual longitud o superando el tubo corolar; estigma bilobada con el lóbulo anterior grueso, papiloso y el posterior reducido y agudo. Esquizocarpio drupáceo subcarnoso, con 2 núculas óseas uniseminadas, algo coherentes a la madurez. Semillas oblongas, exalbuminadas. Arbustos en general bajos, achaparrados, muy ramosos, de tallos postrados, formando matorrales; ramas cortas erectas o extendidas, densamente viscosas, de corteza gruesa, rugosa, rojiza; entrenudos breves. Hojas opuestas coriáceas o subcarnositas, uninervadas, por lo general imbricadas, ovales o elípticas, enteras, uniformemente verde-grisáceas, glabras, brevísimamente pecioladas. Espigas

terminales contraídas paucifloras. Flores azul-violáceas, bracteadas; bracteas escamiformes."

The type species of the genus is *L. medicinalis* R. A. Phil.

As to the geographic distribution of the genus, Troncoso (1974) says: "Bolivia, N. de Chile y NO. de la Argentina. Habita las regiones desérticas del altiplano boliviano-argentino-chileno, constituyendo un elemento característico de la provincia puneña... Se extiende hacia el S hasta la provincia de La Rioja."

Although six binomials have been published in the genus, as of now it appears that the genus comprises only three valid species. Dalla Torre & Harms (1904) recognized only a single species; Angely (1956) recognizes three. For gynoecium morphology and economic uses, see under *L. medicinalis* R. A. Phil.

A reference, "Engl. & Prantl, Nat. Pflanzenfam. Nachtr. 2: 66", appears in the literature, but has not as yet been located or verified by me.

LAMPAYA CASTELLANI Mold., Phytologia 2: 51--52. 1941.

Bibliography: Mold., Phytologia 2: 51--52. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 43 & 94. 1942; Mold., Alph. List Cit. 1: 95 (1946) and 2: 441 & 536. 1948; H. N. & A. L. Mold., Pl. Life 2: 53. 1948; Mold., Alph. List Cit. 4: 1293. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 96, 104, & 187. 1949; E. J. Salisb., Ind. Kew. Suppl. 11: 131. 1953; Cabrera, Revist. Invest. Agric. 11: 354, 359, & 369, fig. 7 B & pl. 10 (1) (1957) and 11: 398. 1958; Mold., Résumé 113 & 458. 1959; Heusser, Pollen Spores Chile 61 & 62, pl. 57-665. 1971; Mold., Fifth Summ. 1: 182 & 197 (1971) and 2: 883. 1971; Troncoso, Darwiniana 18: 355 & 356. 1974.

Illustrations: Cabrera, Revist. Invest. Agric. 11: 354, fig. 7 B & pl. 10 (1); Heusser, Pollen Spores Chile 62, pl. 57-665. 1971.

This species is based on *Herb. Mus. Argent. Cienc. Nat. 20161*, collected by Alberto Castellanos between Cienaga Grande and Cerillos, Jujuy, Argentina, on February 5, 1937, and is deposited in the Britton Herbarium at the New York Botanical Garden. A splendid photograph of the plant in situ is provided by Cabrera (1957) on his plate 10. He states that the plant is medicinal and that its vernacular name is "lampaya". He cites *Cabrera 8763 & 9303*, *Fries 969*, and *Fernández 15*. Troncoso (1974) lists it only from Jujuy and comments that further field work is required before a final decision can be made as to its specific validity.

Recent collectors refer to the plant as a shrub, 20--50 cm. tall, and have found it growing in sandy soils at 3500--3800 m. altitude, flowering in December, February, and March. The corollas are said to have been "lilac" on *Cárdenas 3710* and "tube white, limb violet" on *Fries 969*. The pollen is described by Heusser (1971) as "Monad, isopolar, radiosymmetric; tricolporate, colpi long and narrow, pores transverse, usually constricted at the crossing of each colpus; spheroidal, amb triangular with sides concave; exine as much as 2 μ thick, faintly tectate, fossulate; 31--36 x 31--36 μ .", based on *Cárdenas s.n.* [U. S. Nat. Herb. 1909477] from Bolivia. [to be continued]